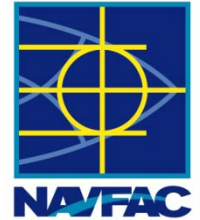




Hunters Point Naval Shipyard Petroleum Program



Status of Petroleum Program Parcels B, C and E Hunters Point Naval Shipyard

BCT Meeting
CH2MHill Office
155 Grand Ave, Suite 800, Oakland, CA
February 28, 2013



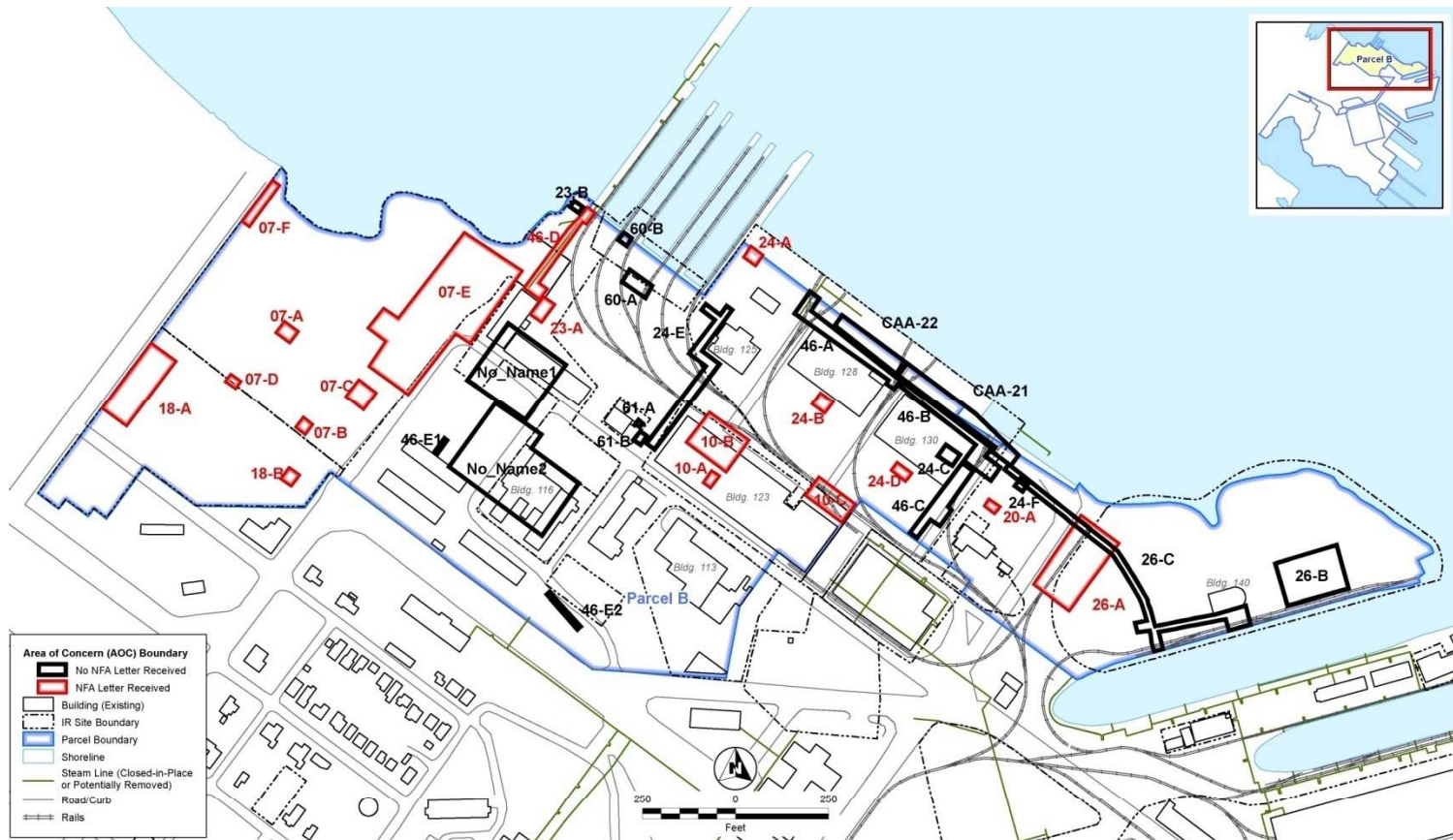
Overview



- **Status of Parcel B Site Closeout Report Sites**
- **Status of the Combined Site, Parcel B**
 - **Conceptual Site Model**
 - **Data Gaps**
- **Parcel C Site Status**
 - **Parcel C Work Plan – sites requiring additional work.**
 - **Sites ready for NFA closure letters.**
- **Parcel E Site Status**
- **Status of Documents**

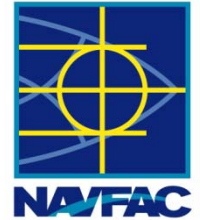


Parcel B TPH Sites





Parcel B TPH Site Status



- 31 low-risk TPH sites in Parcel B recommended for closure in the TPH Closeout Report in 2011.
- Water Board completed 20 NFA Packages and letters: AOC 07-A through 07-F, AOC 10-A through 10-C, AOC 18-A and 18-B, AOC 20-A, AOC 23-A, AOC 23-B, AOC 24-A, 24-B and 24-D, AOC 26-A, and AOC 46-D, and AOC 60-B.
- Water Board requested additional information on 9 sites: AOC 24-C and 24-E, AOC 26-B and 26-C, AOC 46-C, AOC 46-E1 and 46-E2, and AOC 61-A and 61-B.
- 2 sites sites pending NFA: AOC 24-F and AOC 60-A.



Parcel B Site Status Tracking Table



| TPH Site ID | Location | Parcel B Corrective Action Plan Site | NFA Site | Classification | | TPH Impacts Have Been Fully Delineated | Meets 6 Criteria for Closure of Low-Risk Fuel Site | Corrective Action Needed Prior to Closure | Site Closeout Report Complete | Awaiting Water Board Review of Site Closeout Report | Expected NFA Pending Water Board Request for Additional Information | Site Closed: Navy Has Received NFA Letter / NFA Package Complete |
|-------------|--|--------------------------------------|----------|----------------|------------------------|--|--|---|-------------------------------|---|---|--|
| | | | | TPH Only | Commingled (see Notes) | | | | | | | |
| 3AA-31 | COMBINED SITE: Building 126 | ✓ | | ✓ | | | | ✓ | | | | |
| 3AA-32 | COMBINED SITE: Building 130 | ✓ | | ✓ | | | | ✓ | | | | |
| AOC 46-A | COMBINED SITE: Fuel Line A | ✓ | | ✓ | | | | ✓ | | | | |
| AOC 46-B | COMBINED SITE: Fuel Line B | ✓ | | ✓ | | | | ✓ | | | | |
| AOC 07-A | IR 07 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 07-B | IR 07 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 07-C | IR 07 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 07-D | IR 07 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 07-E | IR 07 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 07-F | IR 07 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 10-A | Building 123 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 10-B | Building 123 | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 10-C | Building 123 | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 18-A | IR 18 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 18-B | IR 18 "Sub Base" | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 23-A | East of Building 156 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 23-A | Building 148 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 23-B | Berth 64 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 24-A | Excavation B24-4 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 24-B | Excavation B24-1 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 24-C | Building 130 | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 24-D | Excavation B37-8 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 24-E | Buildings 123 & 125 | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 24-F | Excavation D43-5 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | |
| AOC 25-A | Former Building 157 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 25-B | Former Building 141 | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 26-C | Building 140, Dry Dock 3 | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 46-C | Fuel Line C | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 46-D | Excavations 23-1, 23-3 and Fuel Line F | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 46-E1 | Building 117 Fuel Line | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 46-E2 | Former Building 114 Fuel Line | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 60-A | Excavation U2-2; Dry Dock 6 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| AOC 60-B | Excavation B16-16; Dry Dock 6 | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | |
| AOC 61-A | Building 122 | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| AOC 61-B | Building 122; Fuel Line | ✓* | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |

NOTES

Commingled as originally classified in Parcel B CAP; the site overlaps a CERCL. A plume.

* Originally proposed to be managed under CERCLA. Later added to scope of work for implementation of the Parcel B CAP.



Combined Site Status



- The Combined Site (CAA-21, CAA-22, AOC 46-A and AOC 46-B) was addressed in the *Parcel B Corrective Action Plan* (Shaw, 2008). The CAP recommended NFA status for shallow soil (< 10 feet bgs) further post-remediation groundwater monitoring to determine whether or not to implement the selected alternative for groundwater: an air sparging/DVE system.
- The November 2012 discovery of NAPL in the intertidal zone along the Parcel B shoreline during remedial action revetment construction changed the interpretation of site conditions. The Combined Site is no longer considered a "low-risk" fuel site - this changes the path forward to closure.
- Navy planning further delineation of TPH impacts along the Parcel B shoreline. These data will help refine the CSM and aid in the selection of the corrective action.



Conceptual Site Model Soil Impact – Pre Excavation



Total TPH for All In-Place and Removed Soil Results

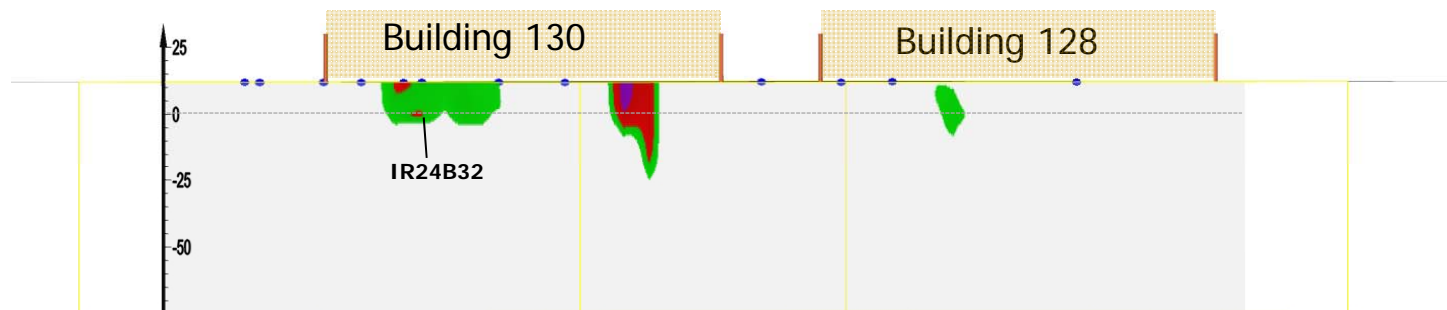




Conceptual Site Model Soil Impact (cont.)

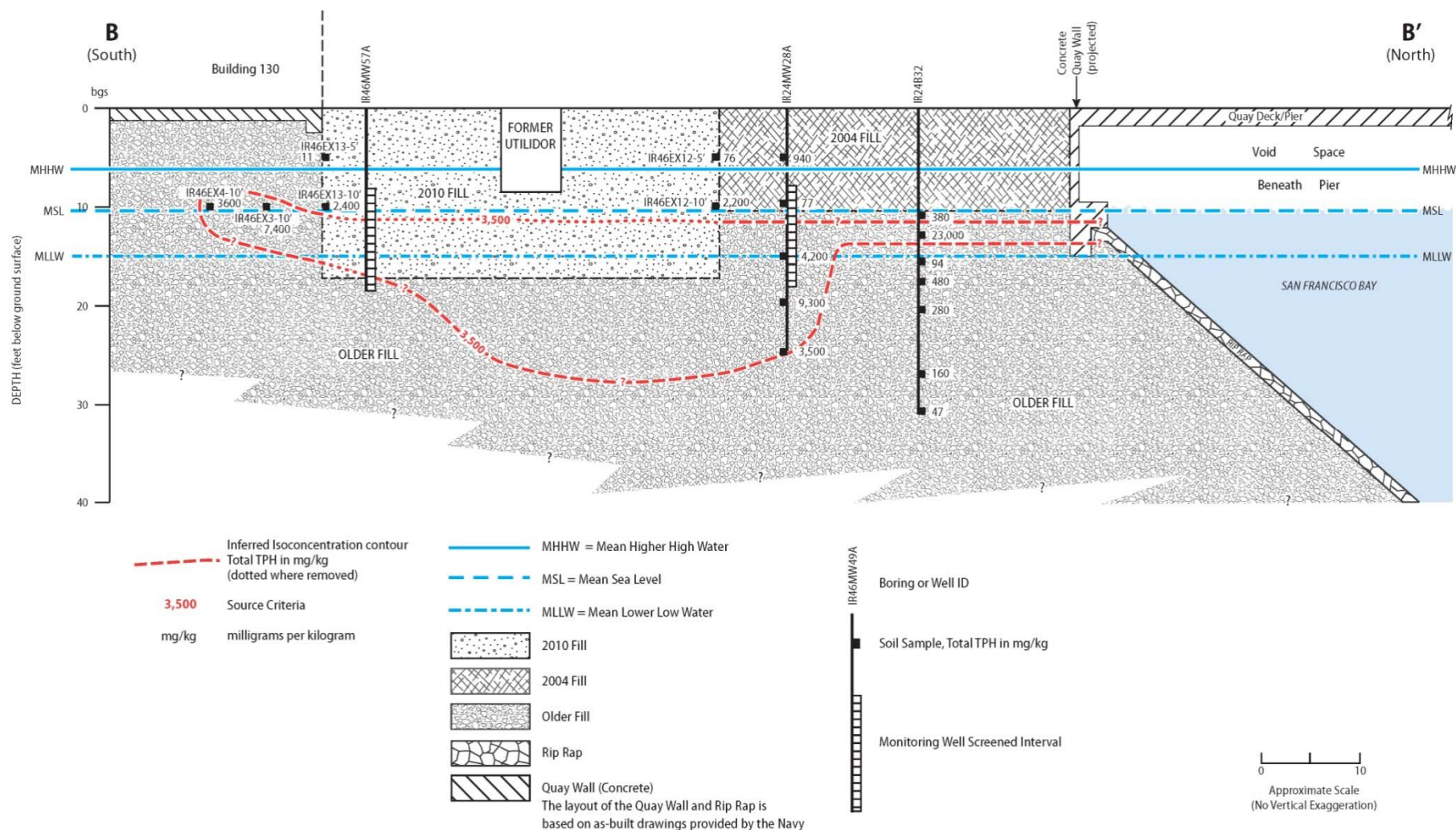


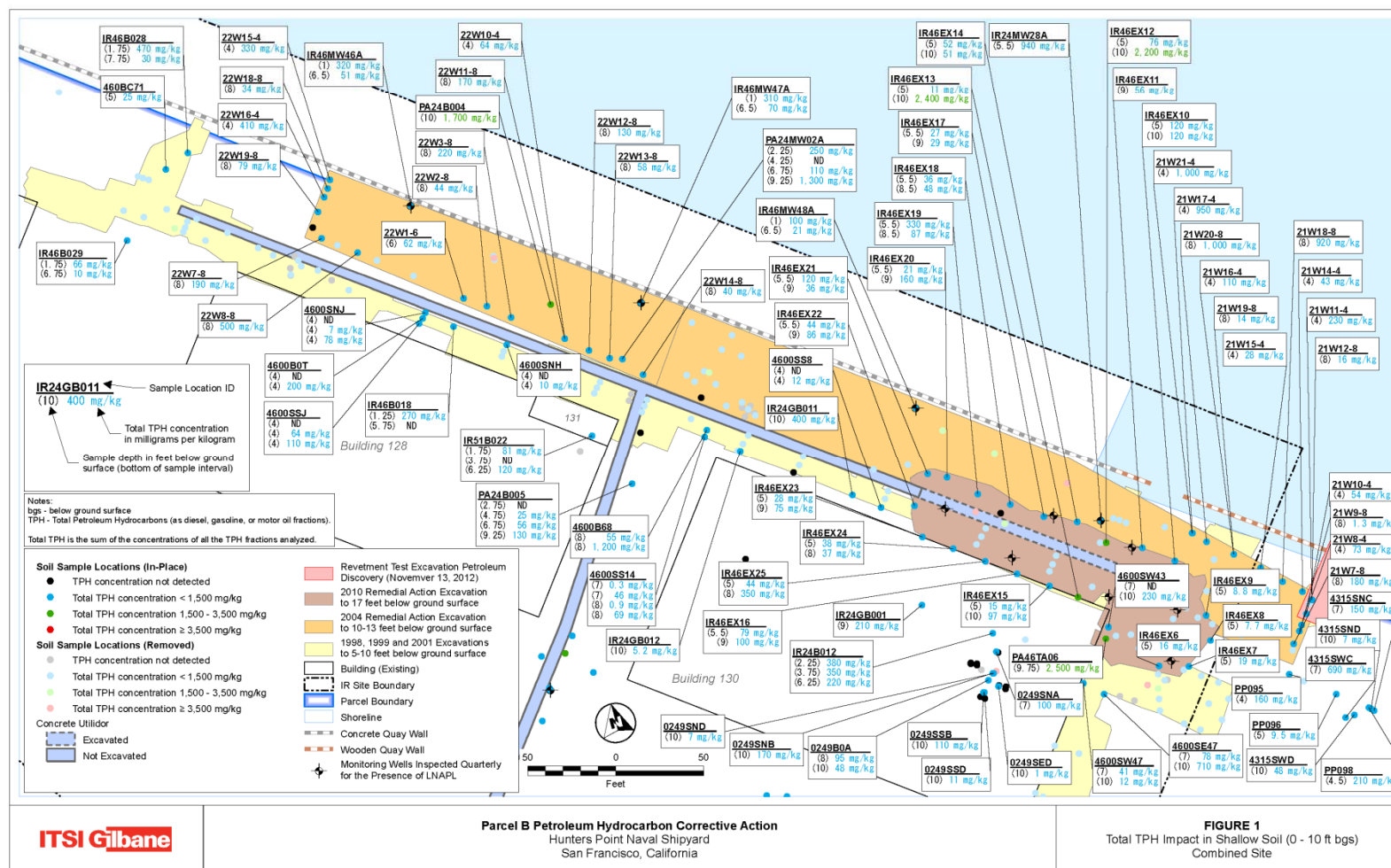
Estimated Total TPH in soil along Quay Wall





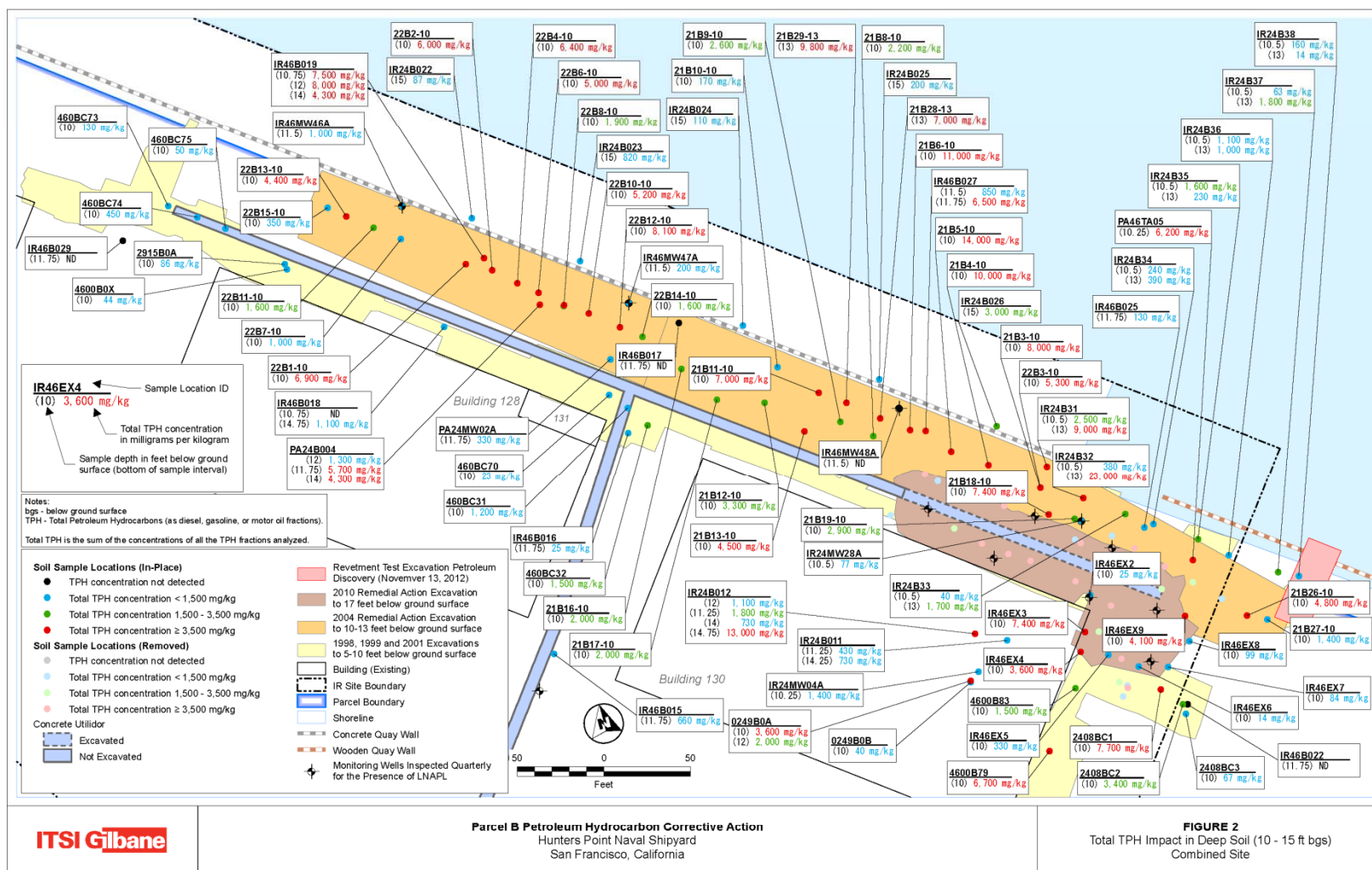
Conceptual Site Model Soil Impact (cont.)







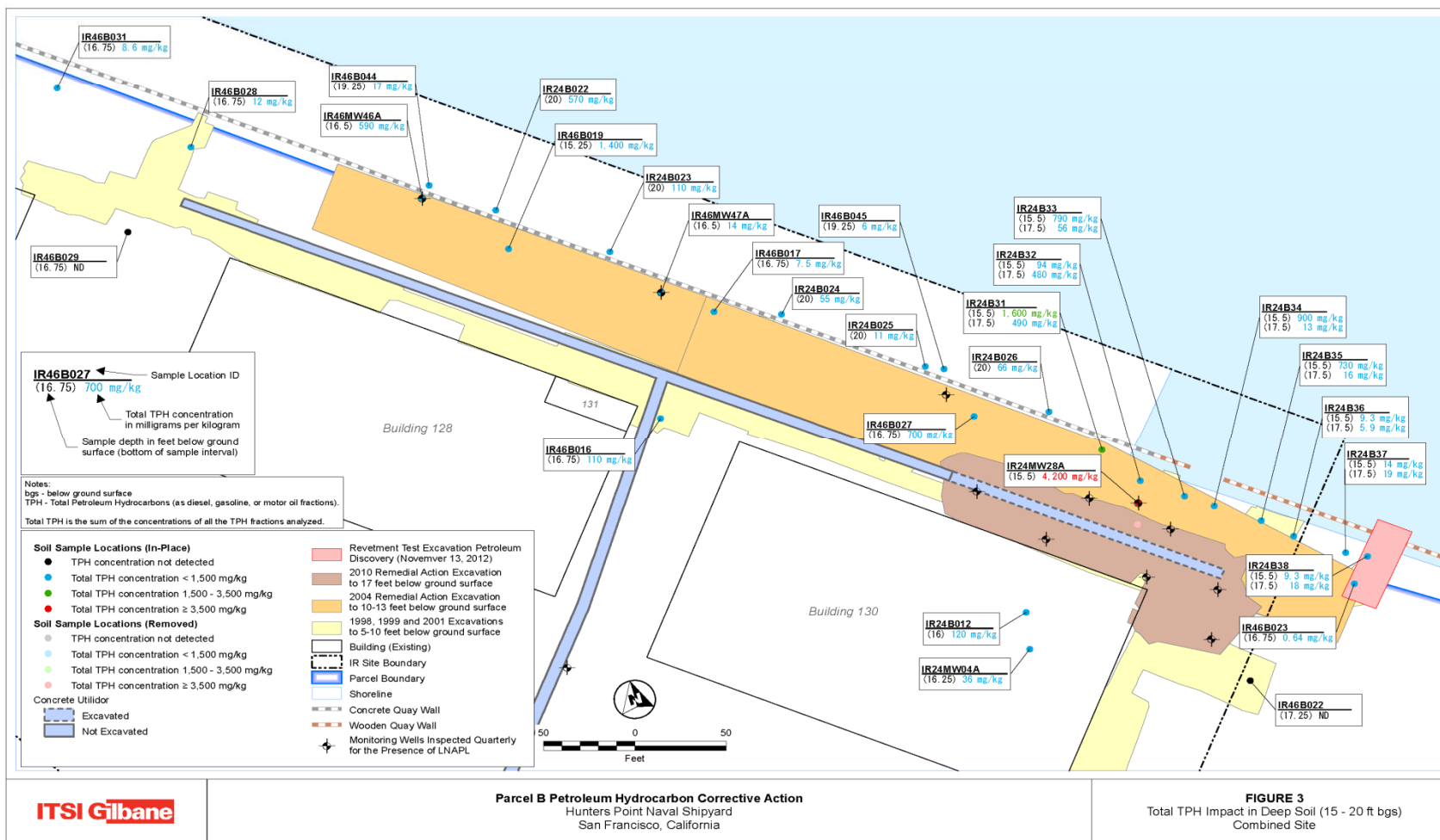
Residual Soil Contamination (10-15 ft bgs)



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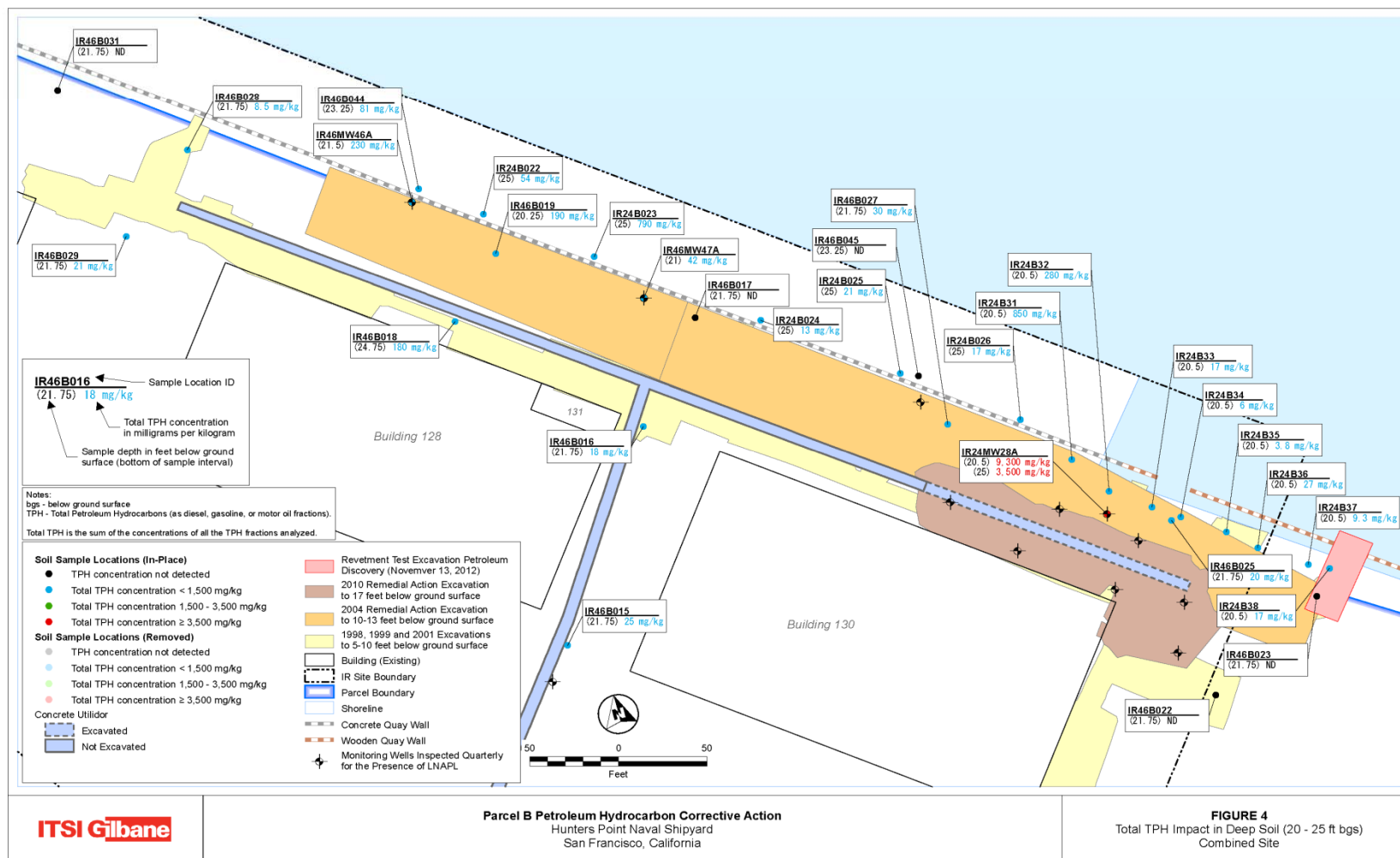


Residual Soil Contamination (15-20 ft bgs)





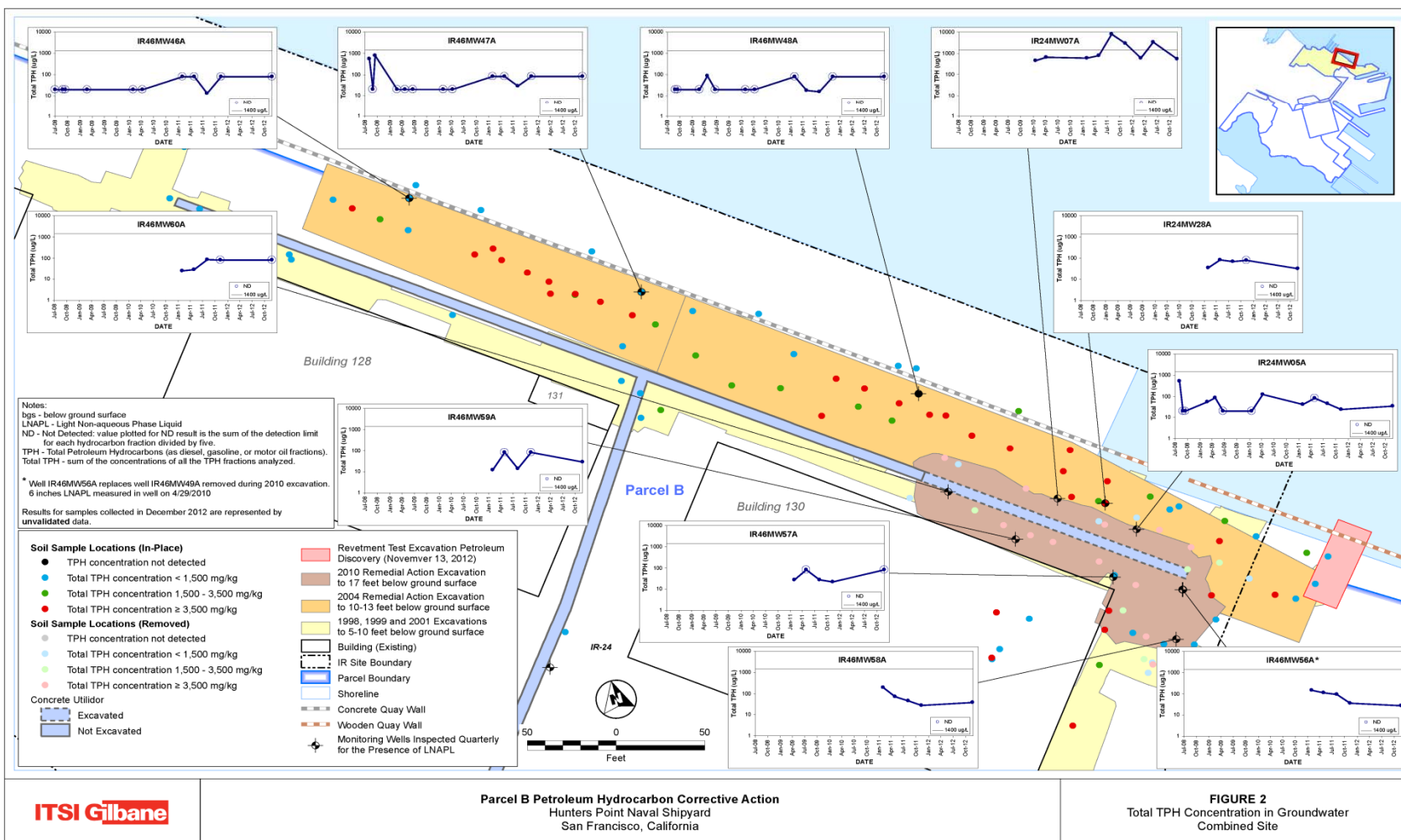
Residual Soil Contamination (20-25 ft bgs)



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Post 2004 Groundwater Monitoring Results for the Combined Site



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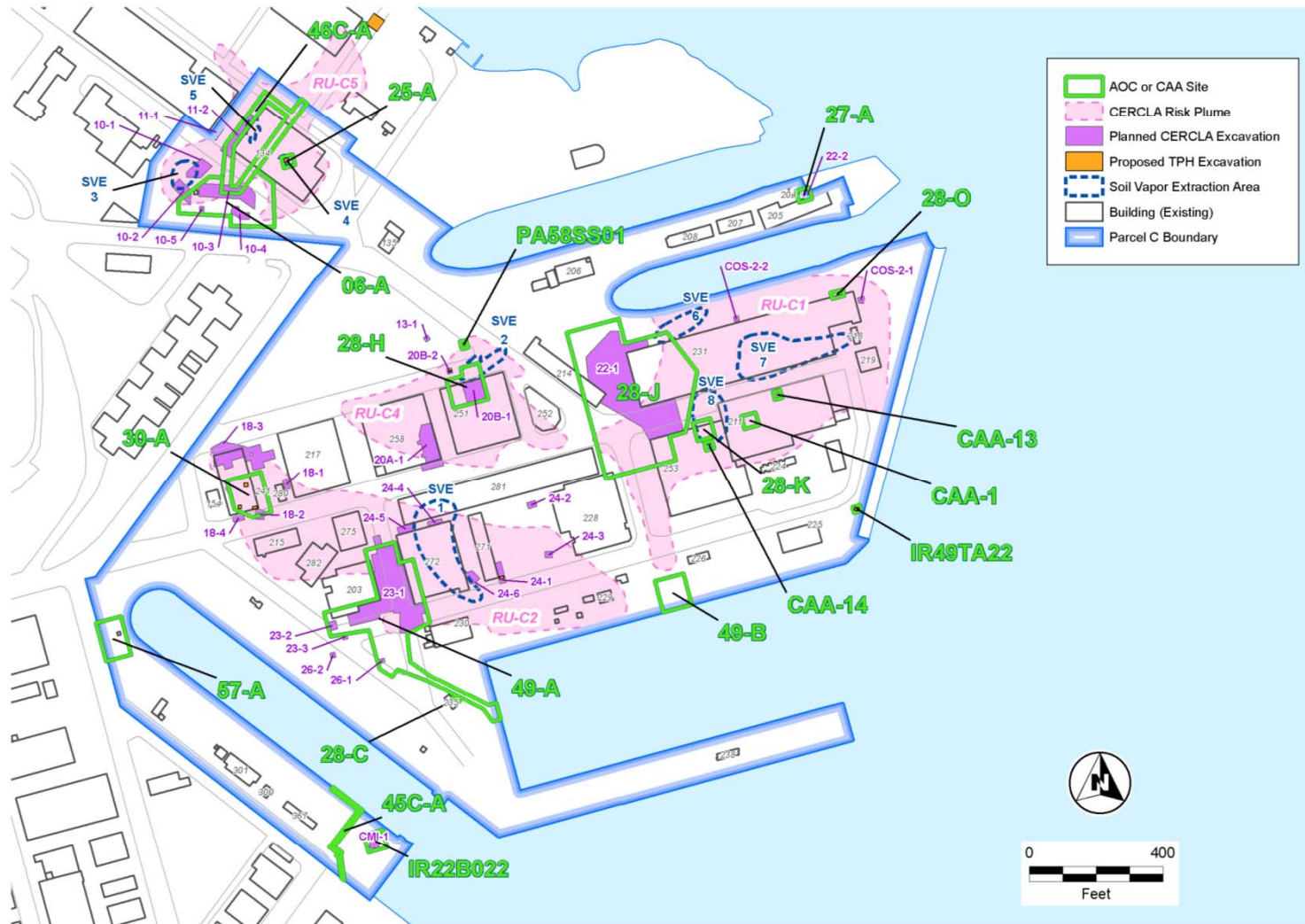
Combined Site Data Gaps



- Groundwater impacts in areas of high TPH in soil near boring IR24B32 and along Parcel B shoreline southeast of concrete Quay Wall not fully characterized.
- Potential for mobile LNAPL in intertidal zone.
- Potential for TPH impacts to groundwater in the intertidal zone.
- Potential for migration of TPH-impacted groundwater underneath the concrete Quay Wall.

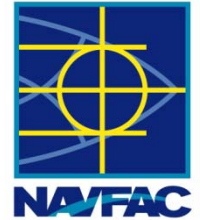


Parcel C TPH Site Map





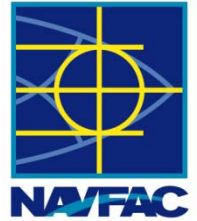
Parcel C Site Status



- Draft Petroleum Hydrocarbon Project Work Plan submitted to Agencies in May, 2012.
- Agency comments received September 2012.
- RTCs currently being prepared.
- Parcel C TPH sites fall into two categories:
 - (1) Sites requiring additional work (20 sites scheduled for additional field investigation)
 - (2) Sites ready for NFA consideration
- Close coordination will have to occur between the TPH program and CERCLA RA contractor and radiological contractor.
 - Field work projected to begin in July 2013



Parcel C Site Status



- 26 sites are ready for consideration for site closure as low-risk fuel sites.
- Individual Site Closeout Reports (ISCRs) will be prepared and submitted separately for agency review (as requested by the WB). This will facilitate a more manageable review schedule for the Water Board.



Parcel C Site Status Tracking Table



Parcel C Petroleum Program Sites

| TPH Site ID | Location | Work Plan | NFA | Classification | | Identifier for CERCLA Excavation Within TPH Site | Adjacent CERCLA Excavations ² | CERCLA In-Situ Actions Within TPH Site ¹ | Adjacent CERCLA In-Situ Actions ² | Information Needed for Work Plan | | | Information Needed Prior to Site Closeout Report | | | | |
|------------------------|---|---------------------------|----------------|----------------|------------------------|---|--|--|--|--|--|-----------------------------------|--|--|-----------------------------------|--|--|
| | | | | TPH Only | Commingled (see Notes) | | | | | COCs for each Matrix Driving CERCLA Action | Remediation Technology for each Matrix (In-Situ) | Expected Date(s) of CERCLA Action | COCs Driving CERCLA Action for each Matrix | Remediation Technology for each Matrix (In-Situ) | Expected Date(s) of CERCLA action | Location Coordinates and Depth of Excavation | TPH COPC Data Collected with Location Coordinates & Sample Depth |
| CAA-1 | Building 211 | √ | | | √ | | | | | | | | | | | | |
| CAA-2 | S of B281, E of B270 | | √ ⁵ | √ | | | | | | | | | | | | | |
| CAA-3 | Van Keuren Ave North of B258 | | √ | | √ | 20B-2 | | | | | | √ | | √ | | | |
| CAA-13 | Building 211 | √ | | | √ | | | | | | | | | | | | |
| CAA-14 | Building 253 | √ | | | √ | | | | | | | | | | | | |
| AOC 06-A | Tank Farm | √ | | | √ | 10-3 ¹ , 10-4 ¹ , 10-5 ¹ | 10-1, 10-2 | RUC5-2, ISB (CrVI) | RU-C5 SVE Area 3, GW BioRem | √ | √ | √ | | | | | |
| AOC 25-A ³ | Building 134 | √ | | | √ | | | RU-C5 GW ZVI, SVE Area 4 | | √ | √ | √ | | | | | |
| AOC 27-A | Building 205 | √ | | | √ | 22-2 ³ | | | | √ | | √ | | | | | |
| AOC 28-A | Btwn B270 & B271 | | √ | | √ | 24-1 | | | | | | | √ | | √ | √ | √ |
| AOC 28-B | Building 272 | | √ | | √ | 24-4 | | RUC-4, SVE-1, ZVI & ISB | | | | | √ | √ | √ | √ | √ |
| AOC 28-C | Adj to B235 | √ | | | √ | | | | | | | | | | | | |
| AOC 28-D | W of B258 | | √ ⁵ | √ | | | | | | | | | | | | | |
| AOC 28-E | Adj to SE corner of B270 | | √ | | √ | 24-3 | | | | | | | √ | | √ | | |
| AOC 28-F | E of B270 | | √ | | √ | | | | | | | | | | | | |
| AOC 28-G | Btwn B251 & B258 | | √ | | √ | | | | | | | | | | | | |
| AOC 28-H ³ | B251 | √ | | | √ | 20B-1 | | | | √ | | √ | | | | | |
| AOC 28-I | S of B272 | | √ | | √ | | | | | | | | | | | | |
| AOC 28-J | Building 231 | √ | | | √ | Exc 22-1 ⁴ | | | | √ | | √ | | | | | |
| AOC 28-K | Building 253 | √ | | | √ | | | RUC-1, SVE-8, ISB | | √ | √ | √ | | | | | |
| AOC 28-L | S of B211 | Removed from Closure List | | | √ | | | | | | | | | | | | |
| AOC 28-M | N of B231 | | √ | | √ | | | | | | | | | | | | |
| AOC 28-N | N of B231 | | √ | | √ | | | | | | | | | | | | |
| AOC 28-O | N of B231 | √ | | | √ | | | | | | | | | | | | |
| AOC 28-P | E of B231 | | √ | | √ | COS-2-1 | | | | | | | √ | | √ | | |
| AOC 28-Q | E of B219 | | √ | | √ | | | | | | | | | | | | |
| AOC 29-B | Btwn B217 & B241 | | √ | | √ | | | | | | | | | | | | |
| AOC 29-C | Btwn B217 & B241 | | √ | | √ | 18-3 | | | | | | | √ | | √ | √ | √ |
| AOC 30-A | South portion B241 | √ | | | √ | | 18-2, 18-4, 18-3 | | | √ | | √ | | | | | |
| AOC 30-B | North portion B241 | | √ | | √ | 18-3 | | | | | | | √ | | √ | √ | √ |
| AOC 45C-A | Dry Dock 4 | √ | | √ | | | | | | | | | | | | | |
| AOC 46C-A ³ | Building 134 | √ | | | √ | | | RU-C5 ⁴ SVE Area 5, GW Thermal, ZVI, BioRem | | √ | √ | √ | | | | | |
| AOC 49-A | btwn B203 & B272 ³ , UST 209 | √ | | | √ | 23-1 ⁴ , 26-1 | | | | √ | | √ | | | | | |

C_TPH_All_Site_Chcksht.xlsx



Parcel C Site Status Tracking Table (cont)



Parcel C Petroleum Program Sites

| TPH Site ID | Location | Work Plan | NFA | Classification | | Identifier for CERCLA Excavation Within TPH Site | Adjacent CERCLA Excavations ² | CERCLA In-Situ Actions Within TPH Site ¹ | Adjacent CERCLA In-Situ Actions ² | Information Needed for Work Plan | | | Information Needed Prior to Site Closeout Report | | | | |
|--------------|----------------------------|-----------|----------------|----------------|------------------------|--|--|---|--|--|--|-----------------------------------|--|--|-----------------------------------|--|--|
| | | | | TPH Only | Commingled (see Notes) | | | | | COCs for each Matrix Driving CERCLA Action | Remediation Technology for each Matrix (In-Situ) | Expected Date(s) of CERCLA Action | COCs Driving CERCLA Action for each Matrix | Remediation Technology for each Matrix (In-Situ) | Expected Date(s) of CERCLA action | Location Coordinates and Depth of Excavation | TPH COPC Data Collected with Location Coordinates & Sample Depth |
| AOC 49-B | S of Nimitz, fuel lateral | ✓ | | ✓ | | | | | | | | | | | | | |
| AOC 49-C | Fuel Line along Bay margin | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| AOC 49-D | Dry Dock 2 | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| AOC 49-E | N of B205 | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| AOC 57-A | Dry Dock 4 | ✓ | | ✓ | | | | | | | | | | | | | |
| AOC 58-A | N of Van Keuren | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| AOC 58-B | N of Van Keuren | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| BOC IR22B022 | Dry Dock 4 | ✓ | | | ✓ | CMI-1 ¹ | | | | ✓ | | ✓ | | | | | |
| BOC IR28257 | Van Keuren Ave | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| IR28MW271A | SE Bay Margin | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| IR28MW294A | S of Nimitz Ave. | | ✓ | | ✓ | | | | | | | | | | | | |
| IR28MW297A | S of Nimitz Ave. | | ✓ | | ✓ | | | | | | | | | | | | |
| IR29B040 | Building 280 | | ✓ ⁵ | ✓ | | | | | | | | | | | | | |
| IR49TA22 | SE Bay margin, fuel line | ✓ | | ✓ | | | | | | | | | | | | | |
| PA58SS01 | Van Keuren at Lockwood | ✓ | | | ✓ | 20B-1 ¹ | | | | ✓ | | ✓ | | | | | |

NOTES

Commingled as originally classified, the site overlies a CERCLA plume (i.e. RU-C1, RU-C2, RU-C4, or RU-C5). Not all commingled sites coincide with ongoing CERCLA program work. Some TPH sites may have had previous CERCLA work (e.g. TCRA excavation).

¹ CERCLA Action must be completed prior to TPH Field effort.

² May require close logistical coordination between TPH Program and CERCLA action.

³ Requires Post CERCLA Action TPH Data Gap assessment prior to scoping TPH field effort.

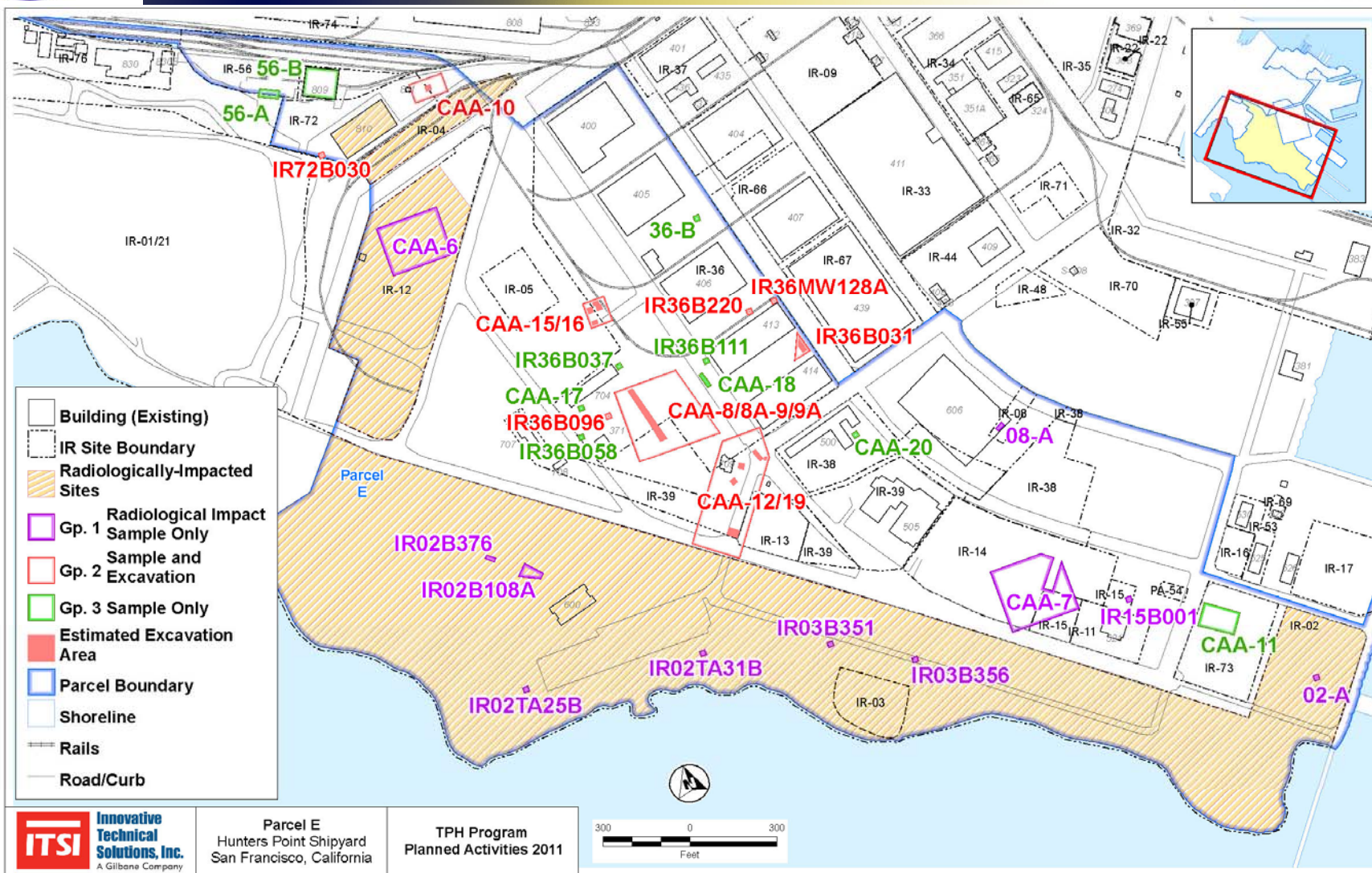
⁴ CERCLA remediation area includes reported LNAPL occurrence; will require Post-Excavation TPH Data Gap assessment.

⁵ Navy and WB agreed NFA for this area, TPH meeting 10/29/08

⁶ WB tentatively agreed with Navy recommendation of NFA for this area pending review of existing reports, TPH meeting 10/29/08



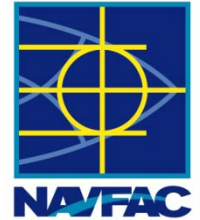
Parcel E TPH Site Map



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Parcel E Site Status



- Draft Petroleum Program Corrective Action Implementation Work Plan submitted to Agencies in April, 2010.
- Agency comments received June 2010.
- Final Parcel E Work Plan placed on hold because much of the planned investigation area is serving as a Radiological Screening Yard and is covered by RSY pads.
- Due to contractual issues – Navy will move forward to finalize the work plan and address sites that are not affected by the radiological program.
 - We are currently preparing RTCs to the Work Plan
 - Field work projected to begin in June 2013



Status of Documents



Parcel B

Post Construction Summary Report (Combined Site and IPOs)

- Draft to WB: 11/2/11
- WB comments received: 3/22/12
- RTCs to WB: 7/19/2012
- WB comments re revised RTCs received: 10/4/12
- Submit Final: March 2013

Fourth Quarter 2011 GMR

- Submitted: February 2013

First Quarter 2012 GMR

- Submitted: February 2013

Second Quarter 2012 GMR

- Submitted: February 2013

Fourth Quarter 2012 GMR

- Submit: April 2013

Parcel C

Parcel C Project Work Plan

- Draft to WB: May 2012
- WB comments received: September 2012
- RTCs to WB: May 2013
- Submit Final: July 2013
- Mobilize to Field: July 2013



Status of Documents



Parcel E

Parcel E Project Work Plan

- Draft to WB: April 2010
- WB comments received: June 2010
- RTCs to WB: April 2013
- Submit Final: June 2013
- Mobilize to Field: June 2013